

## Weeds & Wildlings



Nature knows no plants as weeds.- Liberty Hyde Bailey

Created by  
Pat Patterson



What is a weed? A plant whose virtues have not yet been discovered

## Weeds?

There is a long and complicated story, a story just now beginning to be unraveled but about which we already know enough to state, without fear of successful contradiction, that the history of weeds is the history of man. – Edgar Anderson, “Plants, Man & Life”

## What Is a Weed?

- A human construct.
- A plant growing where it is not wanted. A petunia in an onion patch might be a weed or part of an integrated garden.
- **A plant that interferes with management objectives for a given area of land at a given period of time. –J.M. Torell**

## Is This a Weed?



It gives one a sudden start in going down a barren, stony street, to see upon a narrow strip of grass, just within the iron fence, the radiant dandelion, shining in the grass, like a spark dropped from the sun.

–Henry Ward Beecher

## Dandelions

- One of the top 10 medicinal plants
- Grown commercially for greens
- Excellent beneficial insect habitat
- Nutritious source of food: petals, greens and roots
- Very beautiful, especially in the early spring

## Why Do We Object to Weeds?

- Competition for desired plants
- Allelopathic
- May harbor diseases or pests
- Dangerous to humans or other animals
- Noxious—may crowd out desirable natives and damage habitat
- Aesthetically disagreeable
- The US spends over 5 billion/yr on weed control.

## What Are “Weed” Benefits?

- Help you read the soil
- Mine nutrients and water for the garden
- Genetic resource
- Food source
- Research into resistance to disease and insects
- Erosion control
- Medicinals & pesticides
- Habitat for beneficials
- Arts & crafts
- Fix nitrogen
- Aesthetics (many are beautiful)

## Slightly Acid

English Daisy



Sheep Sorrel

Horsetail



## Very Acid

Batchelor Buttons



## Compacted

English plantain



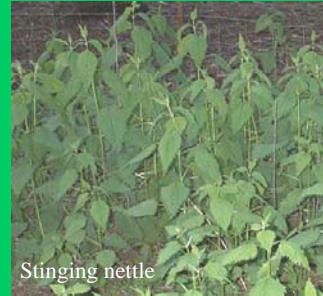
Wild mustard



## Mine Nutrients and Water for the Garden

- Many weeds are “deep divers” and pull up nutrients and water from below the cultivated crop’s reach. These can then be harvested and used as mulch or in compost.
- Champions are stinging nettle, burdock, dock and horsetail

## Deep Divers



## Genetic Resource

- Our modern crops were developed from wild plants. The genes in the wild plants are an incredible resource when breeding for new traits and also to develop new crops. It can also hold the key to increased nutritional quality in our tame plants.
- Cultivated dandelions and Miner’s Lettuce are such crops.



## Food Source

- Wild plants are a very nutritious food source for animals, insects and humans. Humans ate over **176** common greens in the 16<sup>th</sup> century as compared with the scanty diet we now consume. Most weeds are more nutritious than their tame counterparts. Learn to eat your “good” weeds.

## Research Into Resistance to Disease and Insects

- Wild plants often hold the genetic key to increased pest and disease resistance which can be used to improve our cultivated plants. This then reduces the amount of managing we need to do.

## Hold the Soil



Creeping Buttercup kills clover

## Medicines & Pesticides

- Some of the top herbal remedies are from wild plants, not cultivated plants.
- New medicinal compounds are being discovered every day, not just in the tropics but in our temperate plants as well.
- Many weeds have compounds that are being tested as insecticides, fungicides and herbicides.

## Medicinals



Dandelion

Foxglove



## Habitat for Beneficials

- The carrot, daisy and mustard family weeds are among the most used as food sources and shelters for beneficial insects, like the various wasps. All have small, open flowers which are good for the tiny wasps. Chickweed and bittercress are other great habitat plants.

## Beneficial Habitat



Spotted Cats-Ear



Yarrow



Wild Mustard

## Arts & Crafts

- Dried arrangements, wreaths, daisy chains are all uses for common weeds. Some are even sold by craft stores, often spray painted! E.g. Teasel
- Handmade paper is decorated by them as are cards and stationery.
- And just look at all the clothes etc. decorated with their pictures!



Nitrogen fixer-vetch

## Aesthetics (many are beautiful)

- I hope you will soon see the beauty of form, texture and flower of the lowly plants we class as weeds. Few flowers are more lovely than English Daisy, more sculptural than Teasel. They are an important part of our ecosystems and are more often wildlings than weeds. There are some true weeds in the bad sense of the word & **those** we try to manage. None has no redeeming value.



Teasel

## How Weeds Spread

- Most bad weeds are foreigners; hitchhikers with man and animals
- In soil on roots, ballast, equipment and feet
- Wind (the parachuting seeds)
- Water, especially irrigation and floods.
- With other seeds as a contaminant
- Unwise introductions, i.e. Purple Loosestrife, English Ivy, Gorse



Purple Loosestrife



Giant Hogweed

## Wildly Successful Weeds

- Adaptability to fill any niche
- Seed numbers
- Seed viability and delayed dormancy
- Varied means of reproduction
- Vigor for rapid development
- Growth patterns

Potentially Harmful Weeds



Klamathweed (aka St. Johnswort)-  
*Hypericum perforatum*



Tansy Ragwort-*Senecio jacobaea*



Foxglove-*Digitalis purpurea*

Poison Oak-*Rhus diversiloba*



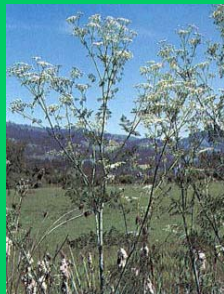
Death Camas-  
*Zygadenus venenosus*



Jimsonweed-*Datura stramonium*



Poison Hemlock-*Conium maculatum*



Water Hemlock-*Circuta douglasii*



Bittersweet Nightshade-  
*Solanum dulcamara*

Creeping Buttercup *Ranunculus repens*



## Weed Management

- Prevention!
- Biological
- Cultural
- Mechanical
- Herbicide (last choice and often avoidable)
  - “Natural”
  - “Synthetic”

## Prevention

- Keeping weeds out is better than weeding out.
- Watch out for:
  - Bringing in soil, new potted plants, not cleaning tools between areas
  - Buying in invasive plants
  - Carrying in seeds on your clothes, pets, equipment

## Cultural

- Once prevention has failed, the major weapons for a gardener are cultural & mechanical
- Try living mulch, regular mulches.
- Create a dynamic soil suited to the chosen plants-pH & nutrients
- **Water and fertilize only the chosen plants.**

## Mechanical

- Hoe, hoe, hoe works but is a lot of work
- Use a sharp scuffle type hoe to cut off young weeds
- Concentrated weeding while desired plants are young
- Create a weed shift by careful management

## Herbicides

- |               |                 |
|---------------|-----------------|
| • Natural     | • Synthetic     |
| – Vinegar     | – Casoron type  |
| – Corn gluten | – Phenoxy group |
| – Salt        | – Roundup       |
| – pH changers |                 |

## Noxious Weeds and Invasive Plants of Western Oregon

Doing our part to prevent their spread

Created by Cheshire Mayrsohn, MG  
& Forest Biologist

## Native vs. non-native

### **Native**

- plants that evolved in a given location (e.g., site or ecoregion)
- here prior to 1850

### **Non-Native**

- alien, exotic, introduced
- brought here after 1851



Leichlin's camas,  
rosy plecritis  
(Native)

## Noxious vs. Invasive

- A noxious weed is quarantined by the ODA and they hope to prevent its spread.
- Harmful to public health, agriculture, grazing, recreation, wildlife or property
  - Giant Hogweed, False Brome
- **Invasive Plants** are non-native species or strains that become established in natural plant communities and wild areas, replacing native vegetation. It crowds out plant communities, reduces diversity and may degrade habitats.
  - English ivy, *Buddleia davidii* (butterfly bush)

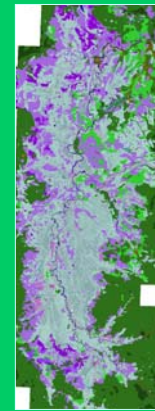
## Loss of Native habitat in the Willamette Valley

### 1851

Lilac = Prairie  
Lt. purple = Oak

### 2000

Tan = Agriculture  
White = Urban



## Importance of native plants

- locally adapted and evolved
- local plant communities are unique
- fit in niche, depended on by native wildlife, fungi and insects
- medicines, food etc. both historic and current

## Why do we care about invasives?

- Replace native vegetation
- Decrease overall biological diversity
- Destroy wildlife habitat, deprive animals of food
- Displace rare plant species
- Create costs and challenges for landowners
- Reduce the value of crops and pasture
- Poison wildlife and livestock
- Reduce recreational opportunities and increase site maintenance costs

## Why do we care?

- 133 million acres of land in the U.S. are covered by invasive plants & 1.7 million acres are invaded every year
- In the Western U.S., 4,600 acres of public land is taken over by invasive plants daily
- **21** of the 100+ noxious weeds in Oregon reduce Oregon's personal income by 83 million dollars per year



## Himalayan Knotweed *Polygonum polystachum*



## Japanese Knotweed *Polygonum cuspidatum*



## Giant Knotweed *Polygonum sachalinense*



## Bohemian Knotweed *P. X bohemicum*



This hybrid is the most common escaped knotweed in Lane County!

## Purple Loosestrife *Lythrum salicaria*



## Knapweeds



Russian knapweed



Meadow knapweed



Meadow knapweed  
*Centaurea pratensis*



Diffuse knapweed *Centaurea diffusa*

## And their close relatives



*Centaurea montana* Cornflower



Star thistle *Centaurea solstitialis*



*Centaurea macrocephalum* big headed yellow cornflower



*Centaurea cyanus* Bachelor Buttons

## Scotch Broom, Portuguese Broom, Gorse

*Cytisus scoparius, C. striatus & Ulex europaeus*



Scotch Broom




Portuguese Broom





Gorse


## Well established weeds- difficult to Eradicate, Especially without Herbicides

- Blackberry
- Yellow flag iris
- St. Johnswort
- English Ivy









## Stinky Bob Shining Geranium



*Geranium robertianum*



*Geranium lucidum*





## Garlic Mustard

*Alliaria petiolata*





## Green Alkanet

*Pentaglottis sempivirens*



Watch also for:  
Common Bugloss  
(*Anchusa azurea*)



Field Bindweed-  
*Convolvulus*  
*arvensis*



Himalaya/Armenian  
Blackberry-  
*Rubus*  
*armeniacus*  
(*discolor*)



Gorse-*Ulex europaeus*



Japanese Fleeceflower-  
*Polygonum cuspidatum*



Wild garlic-*Allium vineale*



Quackgrass-*Agropyron*  
*repens*, now *Elytrigia repens*



## Species escaping from our gardens

- Being found in parks and forests
- Often from dumped garden waste
- Sometimes introduced through commercial compost
- In the early stages of control, we could stop these

## Himalayan Balsam

*Impatiens glandulifera*

Aka: policeman's helmet  
Indian balsam  
touch-me-not



## Butterfly bush *Buddleja davidii*

on Salmon Creek, Oakridge



## Periwinkle *Vinca major* & *V. minor*



*Vinca minor*



*Vinca major*

*Vinca minor* in a vine, with small leaves.

*Vinca major* is a little more woody, with larger leaves

## Lesser Celandine *Ranunculus ficaria*



## *Lamium galeobdolon* Yellow dead nettle or yellow archangel

- Vine, spreads easily from cuttings or seeds
- Typically from dumped cuttings
- Especially invasive in wet areas



## *Kerria japonica*

- Typically spread from dumped trimmings
- Make dense thickets
- Not eaten by any wildlife



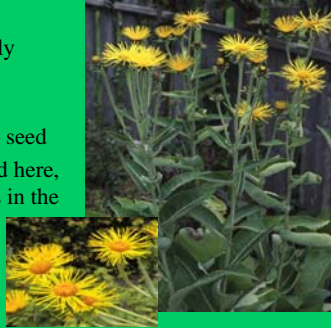
## Milk thistle *Silybum marianum*



- Large white-veined leaves
- Spiny purple flowers
- Used medicinally
- Spreads by seeds, so if you grow it do not let it go to seed. Pick the flowers!

## Elecampane *Inula helenium*

- Roots medicinally used and edible
- Spreads by seed. Don't let it go to seed
- Not much around here, but huge patches in the Columbia River Gorge.



## Pokeweed *Phytolacca americana*

- Native to the Eastern U.S.
- Poisonous berries, roots and leaves
- Young shoots edible
- Used medicinally
- Spreads by seeds, birds love it
- Seeds survive composting



## Verbena bonariensis



## New weeds to be on the look out for....



- Portuguese broom
- Paterson's curse
- Giant Hogweed
- False brome
- Star thistle!

## Portuguese Broom

- Grows up to 12 feet tall
- Pale yellow flowers
- Stems with 8 to 10 ridges
- Small compound leaves with 3 leaflets
- White, hairy seed pods



## Paterson's Curse *Echium plantagineum*



- Grows up to 3 feet tall
- Leaves larger at bottom of plant
- Leaves and stems densely covered in stiff hairs
- Purple, funnel-shaped flowers

## Giant Hogweed



Giant Hogweed



- Up to 15 feet tall
- Stems with dark purple spots and bristles
- Compound leaves up to 5 feet wide
- Small white flowers clustered in an umbrella shaped head

## False Brome



- Grows in bunches
- Hairy leaf edges and lower stems
- Drooping leaves and seed heads
- BRIGHT APPLE GREEN COLOR

## What can You do?

- Learn to identify invasive species, eradicate them when you find them, and avoid planting them.
- Dispose of weeds and invasive plants properly, don't dump them in the woods or "over the fence".
- Educate your friends and neighbors about these weeds.
- Clean your car, boots and tools after driving, walking or working in an infested area.
- Choose native plants or plants known NOT to be invasive
- Don't plant "wildflower mixes" without knowing everything that is in them.

**Report plants on the ODA list to 1-866-INVADER or 503-986-4612**

## What is the lesson?

We desire variety, beauty, uniqueness, usefulness

- But many plant importations destroy native habitat
- Invasiveness is seldom predictable
- Globalization = homogenization
- We respect tradition and freedom, and resist connecting the dots: we don't want to give anything up

## Think LOCALLY!

- Learn your local native plant species, and their habitats: protect them, adore their beauty, diversity and uniqueness! Use them.
- Collect seed or cuttings locally (with permission); buy from local nurseries who propagate responsibly from local stock.
- Follow the native gardening guidelines at NPSOregon.org.
- Learn the wildland invasive species; recognize they are beautiful and unique in their local, native lands.
- Avoid using them -- and help eradicate escapees.

## And Always Remember

- **NATURE BATS LAST!**
- Aside from the officially noxious invaders, most weeds are actually a part of the integrated ecosystem of foods, habitat and diversity.

## Weed Pictures



Annual Bluegrass  
*Poa annua*



Gorse  
*Ulex europaeus*



Canada Thistle-  
*Cirsium arvense*



Purple Loosestrife-  
*Lythrum salicaria*



Knapweeds- *Centaurea spp*

Groundsel  
*Senecio vulgaris*



Mole plant  
*Euphorbia lathyris*



Petty Spurge  
*Euphorbia peplus*



Nipplewort  
*Lapsana communis*



Poison Hemlock  
*Conium maculatum*



Sheep sorrel  
*Rumex acetosella*



Bull Thistle  
*Cirsium vulgare*



Water Hemlock  
*Circuta douglasii*



Cow Parsnip  
*Heracleum lanatum*



Ground Ivy  
*Glechoma hederacea*  
(always prostrate)



Heal-All (Self Heal)  
*Prunella vulgaris*



Poison oak  
*Rhus diversiloba*



Purslane  
*Portulaca oleracea*



Armenian, aka Himalaya,  
Blackberry  
*Rubus armeniacus*



Lambsquarter  
*Chenopodium album*



Red-Root Pigweed  
*Amaranthus retroflexus*



Field Bindweed *Convolvulus arvensis*



Quackgrass  
*Elytrigia repens*



**Bitterdock**  
*Rumex obtusifolius*



**Curly Dock**  
*Rumex crispus*



**Horsetail**  
*Equisetum spp*



**Common Mallow**  
*Malva neglecta*



**Evergreen Blackberry**  
*Rubus laciniatus*



**Common Groundsel**  
*Senecio vulgaris*



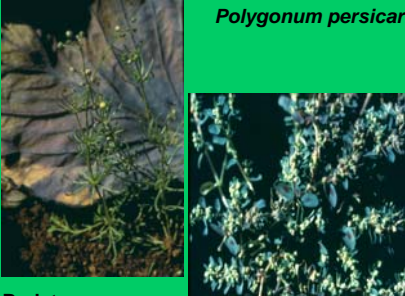
**Broadleaf Plantain ---English Plantain**  
*Plantago major*    *Plantago lanceolata*




**Cranesbill (filaree)**  
*Geranium circuitarium*



**Lady's thumb**  
*Polygonum persicaria*



**Bedstraw**  
*Galium aparine*



**St. John's Wort**  
*Hypericum perforatum*

**Tansy Ragwort**  
*Senecio jacobaea*

## Bibliography

- *Handbook of Northwestern Plants*, Dennis & Gilkey
- *Weeds of the Pacific Northwest*, Helen Gilkey
- *Wildly Successful Plants*, Lawrence Crockett
- *Weeds and What They Tell*, Ehrenfried Pfeiffer
- *PNW Weed Control Handbook*, OSU (front pages **very** informative)
- *My Weeds*, Sara Stein
- *Northwest Weeds*. Ronald J. Taylor, Mountain Press, Missoula, MT
- *Weeds of the West*
- Weeds CD available through us
- *Common Sense Pest Management*, Chapter 27, Olkowski & Olkowski
- *Weeds of the Pacific Northwest*. Pojar & McKinnon